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动物分类学报

湖北西北部神农架古蚤属一新种（蚤目，栉眼蚤科）

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摘　要　记述从湖北省西北部神农架林区海拔 2 300 m 捕获的短尾鼩 Anourosorex squamipes 体上采到的古蚤属 Palaeopsylla Wagner, 1903 偏远种团 remota-group 1 新种，马氏古蚤 Palaeopsylla mai sp. nov.，新种与偏远古蚤 Palaeopsylla remota Jordan, 1929、重凹古蚤 P. recava Traub et Evans, 1967、鼹古蚤 P. talpae Gong et Feng, 1997 和贵真古蚤 P. kueichenae Xie et Yang, 1982 相近，其主要不同在于变形节和阳茎端的构造。模式标本存放军事医学科学院微生物流行病研究所医学昆虫标本馆。

关键词　蚤目，栉眼蚤科，古蚤属，偏远种团，新种.

中图分类号　Q969.47

作者在进行湖北省西北部神农架林区蚤类生态多样性资料分析时，从保存在 70%酒精内的大量蚤类标本中，发现其中有 1 只雄蚤与同批采到的偏远古蚤 Palaeopsylla remota 2 ♂♂、3 ♀♀标本形态有很大不同，经详细研究后鉴定系古蚤属 Palaeopsylla Wagner, 1903 偏远种团 remota-group 1 新种。

马氏古蚤，新种 Palaeopsylla mai sp. nov.（图 1～4）

鉴别特征　新种（♀未发现）依其额突下内骨化带细窄，颊栉第 2 刺近剑形，前胸栉基线微弧凸，各刺直而端尖，与偏远种团 remota-group 中的偏远古蚤 P. remota Jordan, 1929、重凹古蚤 P. recava Traub et Evans, 1967、鼹古蚤 P. talpae Gong et Feng, 1997 和贵真古蚤 P. kueichenae Xie et Yang, 1982 相近，但据以下几点可与后 4 种区别：1）♂抱器不动突卵圆形，端钝、且较宽，内侧亚前缘至背方具 20 余根短鬃丛，基腹部无线纹；2）可动突端半部略向前曲，且不宽于下半段，具较锐的前端角；可动突稍高于不动突，长约为宽的 3.3 倍；3）第 9 腹板后臂从肘腹缘至顶端长于前臂，后缘平直，第 9 背板前内突与柄突之间内凹宽圆；4）额突下内骨化带细窄（表 1）。

种的记述　额突小（图 1），尖锐，约位于额缘上 2/5 处，额突下内骨化带，除近口角处有 1 加厚区外，其余一致细窄。额鬃 1 列 5（4）根，下位第 2 根较长。眼退化、仅留有痕迹。颊栉第 1 刺背、腹缘不平行，端尖，第 2 刺近剑形，第 3 刺靠基部 2/5 处最宽，其后渐变窄、具窄长的端部均超过后头缘；第 1 与第 2 刺间和第 2 与第 3 刺间具明显间隙。后头鬃 3 列，为 2、2、3 根；触角窝背缘具小鬃 1 列 10 根，触角梗节上有小鬃 3 根。下唇须微短于前足基节的长度。

胸部　前胸背板具 1 列 5 根长鬃，两侧共有刺 19 根，背刺明显长于前胸背板背缘，栉刺直而端尖；前胸栉基线微向前方弧凸。中胸背板鬃 2 列，颈片内侧假鬃两侧共 4 根。中胸侧板鬃 3 列 7 根。后胸背板无端小刺，后胸背板侧区具 1 长 1 短鬃，后胸后侧片鬃 2 列 5 根。前足基节外侧鬃 25 根左右，后足基节下半部有鬃约 18 根。前、中、后足胫节后缘各具 6 个缺刻，外侧有鬃 1 列 6 根，内侧无鬃。后足第 1 跗节端长鬃远超过第 2 跗节之半。各足第 5 跗节有 5 对侧蹠鬃，第 1 对为腹位，在第 2 对之间。

腹部　第 1～6 背板具鬃 2 列，前列小而不完整，中胸背板主鬃列 6 根鬃，气门下具 1 根鬃，气门小而端尖。第 1～5 背板端小刺，两侧共为 2、2、2、2、0 根。臀前鬃 3 根，中位者最长。

变形节　♂第 8 腹板后腹缘平直，端缘圆凸，外侧具鬃 5（6）根。抱器不动突前 2/1 凸出明显，端钝且较宽，前背亚前缘内侧面至顶端有密集成簇的小鬃 25～28 根，基腹部无线纹（图 2）。可动突稍高于不动突，端半部略向前曲，且不宽于下半段，具较锐的前端角（图 3），长约为宽的 3.3 倍。基节臼位于柄突基部。第 9 背板前内突较发达，柄突从基向端逐渐变窄，在前内突与柄突之间内凹宽圆。

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表 1 古蚤属偏远种团 5 种蚤形态比较

Table **1**. A comparison of characters of **5** species of remota-group of the genus Palaeopsylla.

特征 Characteristics	遍远古蚤 P. remota	重凹古蚤 P. recava	鼹古蚤 P. talpae	马氏古蚤, 新种 P. mai sp. nov.	贵真古蚤 P. kueichenae
♂额突下内骨化带 Sclerotization from frons tubercle to upper oral angle	宽 Wider	较窄 Narrower	宽 Wider	细窄 Slender and narrow	宽 Wider
♂不动突 Immovable process	锥形、端尖, 基腹部有线纹 Conical, apical tine, basal abdominal portion with striarium	近矩形、端平截, 基腹部无线纹 Rectangular, apical truncate, basal abdominal portion without striarium	锥形、端尖, 基腹部有线纹 Conical, apical tine, basal abdominal portion with striarium	卵圆形, 端钝圆, 基腹部无线纹 Egg round, apical blunt round, basal abdominal portion without striarium	近锥形、端尖, 基腹部有线纹 Conical, apical tine, basal abdominal portion with striarium
♂可动突 Movable process	棒状, 上、下宽度相等, 末端明显高于不动突 Stick-shape, equal width from sub-top to base, and its apex distinctly higher than immovable process	棒状, 上、下宽度相等, 末端明显高于不动突 Stick-shape, equal width from sub-top to base, and its apex distinctly higher than immovable process	端半部略向前曲, 拇指形, 且微宽于下半段, 末端高于不动突 Thumb-shape, upper portion slightly wider than lower, and its round apex higher than immovable process	端半部略向前曲, 近镰刀形, 且不宽于下半段, 具较锐的前端角, 末端稍高于不动突 Sickle-shaped, upper part no wider than lower, with a distinct anterior apical angle, and its apex only slightly higher than immovable process	棒状, 上半段宽于下半段, 末端高于不动突 Stick-shape, upper portion wider than lower, and its apex higher than immovable process
♂第 8 腹板后腹缘 Posterior ventral margin of st. Ⅷ	平直 Flat straight	微凹 Slightly concave upward	浅凹 Shallow concave upward	平直 Flat straight	明显内凹, 有 1 折叠 Obvious concave upward and with a fold
♂第 9 腹板后臂从肘腹缘到顶端 Distance from the basal ventral margin of distal arm of st. Ⅸ to apex	长于前臂, 后缘弧凸 Longer than the anterior arm, posterior margin arch in shape	短于前臂, 后缘直 Shorter than the anterior arm, posterior margin straight	长于前臂, 后缘中段略凸 Longer than the anterior arm, middle of posterior margin slightly convex	长于前臂, 后缘直 Longer than the anterior arm, posterior margin straight	长于前臂, 后缘中段微凹 Longer than the anterior arm, middle of posterior margin slightly concave
♂阳茎端 Terminal portion of aedeagus	端缘略平直, 钩突叉形 Apical margin of median dorsal lobe nearly straight, crochet furcation	端缘圆弧形, 钩突宽钩形, Apical margin of median dorsal lobe round-arch in shape, crochet wide-hook like	端缘略凸, 钩突半圆形 Apical margin of median dorsal lobe slightly convex, crochet semicircle shape	端缘略平直, 钩突喇叭形 Apical margin of median dorsal lobe nearly straight, crochet loudspeaker shape	端缘较平直, 钩突喇叭形 Apical margin of median dorsal lobe nearly straight, crochet loudspeaker like
♀第 7 腹板后缘内凹 Sinus of posterior margin of st. Ⅶ	上凹宽浅, 下凹小 Upper sinus wide and shallow, lower sinus small	上凹宽浅, 下凹小 Upper sinus wide and shallow, lower sinus small	♀未发现 Unknown	♀未发现 Unknown	窄而深 Narrow and deep
地理分布 Geographical distribution	湖北西部, 云南, 四川, 贵州, 陕西, 江苏, 湖南, 台湾, 甘肃; 国外分布缅甸, 锡金和尼泊尔 Western of Hubei, Yunnan, Sichuan, Guizhou, Shaanxi, Jiangsu, Hunan, Taiwan, Gansu; Burma, Sikkim, Nepal	台湾南投 Nantou, Taiwan	云南大理苍山 Dali Cangshan, Yunnan	湖北神农架 Shennongjia, Hubei	云南大理 Dali, Yunnan



图 1～4 马氏古蚤，新种 Palaeopsylla mai sp. nov.
1. ♂头及前胸背板（head and prothorax of male） 2. ♂变形节（modified segments of male） 3. ♂可动突（movable process of male） 4. ♂阳茎端（terminal portion of aedeagus of male）

腹板后臂从肘腹缘到顶端长于前臂，端半段略窄于基半段，后缘直，外侧具鬃 14（16）根，近端 4（5）根较长。阳茎端中背叶的端缘较平直；钩突较大，形状略近喇叭形，在骨化内管端口的上方，具 1 不规则深色骨化脊向背前方伸延（图 4）。

正模 ♂，体长 2.7 mm，1995 年 6 月 22 日，湖北省西北部神农架林区大岩屋林场，海拔 2 300 m，短尾鼩 Anourosorex squamipes，生境为针阔叶混交林带。模式标本存放军事医学科学院微生物流行病研究所。

讨论 马氏古蚤 P. mai sp. nov. 是寄生于鼩鼱科 Soricidae 短尾鼩 Anourosorex squamipes 等小型哺乳动物体外的稀有寄生蚤，因其一般形态与鼹古蚤 P. talpae 十分相似，地理分布上在湖北西部又与偏远古蚤 P. remota 相一致，因此三者易混淆或误定，但 ♂抱器不动突基腹部无线纹，且前缘凸出明显是区别于后两种的重要特征，这是在标本未用氢氧化钠消化腐蚀前，或制作成玻片标本后反复在显微镜下对比观察的结果，而且阳茎端的构造也各不相同。

根据马氏古蚤 P. mai sp. nov. 额突下内骨化带细窄这一特点，作者注意到分布于云南剑川的云

南古蚤 P. yunnanensis (**仅发现** ♀) **具备这一特征, 但云南古蚤** P. yunnanensis **前胸栉背侧刺都不同程度微向上弯, 腹部第** 1～5 **背板端小刺数目较多**, 7、10、8、5、2 **根, 颊栉第** 1 **刺端圆。而马氏古蚤** P. mai **前胸栉刺直而不弯, 腹部第** 1～5 **背板端小刺数目少**, 2、2、2、2、0 **根, 颊栉第** 1 **刺端尖, 地理区划上它们分别属于两个不同的地理亚区, 因此在表中未将云南古蚤** P. yunnanensis **列入作比较。**

马氏古蚤 P. mai sp. nov. **前胸栉基线微向前方弧凸, 不动突前、后缘较凸出, 可动突端半部略向前曲, 与小型种团** minor-group **的某些种类有相近之处, 如** P. minor、P. smiti **和** P. alpestris **等。如解宝琦等** (1989) **提出, 古蚤属除化石种团** klebsiana-group、**钝刺种团** obtuspina-group **和短额种团** brevifrontata-group **在额及颊栉及着生位置有其独特的形态特征外, 其余小型种团、鼩鼱种团** soricis-group **和偏远种团基本没有独特特征, 多项特征镶嵌交叉, 给实际应用带来一定困难。而新种的发现, 也再次暗示或证明小型种团、鼩鼱种团和偏远种团的划分确有一定的疑问, 有必要作调整或进一步研究。据此作者建议, 这** 3 **个种团除鼩鼱种团暂时作为有效种团保留外, 其余小型种团和偏远种团应予以合并, 按一个种团即偏远种团处理。**

词源: 以吉林省地方病第一防治研究所马立名教授的姓氏命名。

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A NEW SPECIES OF THE GENUS PALAEOPSYLLA WAGNER FROM SHENNONGJIA, NORTHWEST OF HUBEI, CHINA (SIPHONAPTERA, CTENOPHTHALMIDAE)

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Abstract　The paper deals with a new species of remota-group of the genus Palaeopsylla Wagner, 1903, collected from Shennongjia Forest Region, Northwest of Hubei Province, China. Holotype is deposited in the Medical Entomology Collection, Institute of Microbiology and Epidemiology, Academy of Military Medical Sciences, Beijing.

Palaeopsylla mai sp. nov. (Figs. 1-4)

Body length 2.7 mm. The new species is similar to Palaeopsylla remota Jordan, 1929, P. recava Traub et Evans, 1967, P. talpae Gong et Feng, 1997 and P. kueichenae Xie et Yang, 1982, but differs from the latter four species in the following characters: 1) the immovable process of clasper egg-rounded, the apical blunt round and broader, the sub-anterior margin to apex of its inner surface with 25-28 small bristles fascicle; no striarium at basal abdominal portion of immovable process; 2) the upper portion of movable

process slightly curved forward, the width same as lower portion and with a distinct anterior apical angle, the apex of movable process only slightly higher than immovable process, its length about 3.3 times as width; 3) the distance from ventral margin of basal part to apex of distal arm of st. IX longer than that of proximal arm, and its posterior margin flat straight; the posterior sinus between apodeme of st. IX and manubrium broader and round; 4) the crochet of aedeagus-loudspeaker shape (as same in P. kueichenae), the apical margin of median dorsal lobe of phallosome somewhat flat, while the apical margin of median dorsal lobe of phallosome of P. recava and P. talpae being arch or slightly convex in shape; 5) the band of sclerotization zone from the frons tubercle to the upper oral angle slender and narrow. In addition, the new species is allied to P. yunnanensis Xie et Yang, 1982, but differs from the latter in: each spines of pronotal comb straight; the abdominal t. I-V with less spinelets (arranged as 2, 2, 2, 2, 0 = 8); the apex of the 1th spine of genal comb sharp. While the dorsal lateral 14 spines of pronotal comb P. yunnanensis slightly curved upward; the abdominal t. I-V with more spinelet (arranged as 7, 10, 8, 5, 2 = 32); the apex of the 1th spine of genal comb round.

Etymology. The new species is named in honor of Prof. MA Li-Ming.

The female has not been discovered yet.

Holotype ♂, collected from Anourosorex squamipes, Shennongjia Forest Region (31°15′N, 109°56′E, atl. 2 300 m), Northwest of Hubei Province, 22 June 1995.

Key words Siphonaptera, Ctenophthalmidae, Palaeopsylla, remota-group, new species.